

AMENDED SET OF CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the present application.

1. (Currently Amended) An isolated DNA encoding a mutant FRT sequence derived from yeast 2 μ DNA comprising a nucleotide sequence shown in SEQ ID NO:1, wherein the nucleotides of the middle 8 bp spacer region are replaced with any one of SEQ ID NOS: 2 to 5.

2. (Previously Presented) An isolated DNA comprising a mutant FRT sequence consisting of a sequence, comprising at least one nucleotide substitution in the mutant FRT sequence other than in an 8-bp spacer region spanning nucleotide positions 14-21 in the mutant FRT sequence defined in claim 1, wherein said mutant FRT sequence possesses the following properties (A) and (B):

(A) causing no specific DNA recombination reaction with wild type FRT, even if FLP recombinase is present, and

(B) causing specific DNA recombination reaction with another mutant FRT sequence having an identical sequence thereto in the presence of recombinase FLP.

3. (Previously Presented) The DNA according to claim 1 or 2, wherein said mutant FRT sequence possesses the property of causing no specific DNA recombination reaction with a mutant FRT sequence

having a different sequence in the 8-bp spacer region in the presence of recombinase FLP.

4. (Currently Amended) ~~A-DNA~~ An isolated DNA comprising at least one wild type FRT sequence and at least one mutant FRT sequence defined in claim 1.

5. (Previously Presented) The DNA according to claim 4, having a desired nucleotide sequence between the wild type FRT sequence and the mutant FRT sequence.

6. (Currently Amended) ~~A-DNA~~ An isolated DNA comprising at least two mutant FRT sequences defined in claim 3, wherein the mutant FRT sequences are different relative to one another in the 8-bp spacer region.

7. (Previously Presented) The DNA according to claim 6, further comprising a desired nucleotide sequence between the two mutant FRT sequences.

8. (Currently Amended) A cell which is transformed with the DNA of claim 4 in vitro.

9. (Currently Amended) A method for replacing a nucleotide sequence in vitro, comprising the steps of

reacting a first DNA comprising in sequential order a wild type FRT sequence, a first nucleotide sequence of interest and a mutant FRT sequence shown in any one of SEQ ID NOS: 2-5 with a second DNA comprising in sequential order a wild type FRT sequence, a second nucleotide sequence of interest which nucleotide sequence is different from that of the first nucleotide sequence of interest, and a mutant FRT sequence which is identical to the mutant FRT sequence of the first DNA in the presence of recombinase FLP,

thereby obtaining a DNA in which the first nucleotide sequence of interest is replaced by the second nucleotide sequence of interest in the first DNA.

10. (Currently Amended) A method for replacing a nucleotide sequence in vitro, comprising the steps of

reacting a first DNA comprising in sequential order a mutant FRT sequence defined in claim 3, a first nucleotide sequence of interest and a second mutant FRT sequence, wherein the first and second FRT sequences are different relative to one another in the spacer region with a second DNA comprising in sequential order the first mutant FRT sequence, a second nucleotide sequence of interest which nucleotide sequence is different from that of the first

nucleotide sequence of interest, and the second mutant FRT sequence in the presence of recombinase FLP,

thereby obtaining a DNA in which the first nucleotide sequence of interest is replaced by the second nucleotide sequence of interest in the first DNA.

11. (Currently Amended) The method according to claim 9 or 21 ~~9, 10, or 21~~, wherein the second nucleotide sequence of interest is not functional.

12. (Currently Amended) The method according to claim 9 or 21 ~~9, 10, or 21~~, wherein said first nucleotide sequence of interest is not functional.

13. (Currently Amended) The method according to claim 9 or 21 ~~9, 10, or 21~~, wherein said first DNA is a chromosomal DNA of a cell, and said second DNA is a plasmid DNA or a DNA of double-stranded circular DNA virus.

14. (Currently Amended) The method according to claim 9 or 21 ~~9, 10, or 21~~, wherein said first DNA is a chromosomal DNA of a cell, and said second DNA has a property for forming a double-stranded circular DNA by intracellular conversion.

15. (Currently Amended) The method according to claim 9 or 21 ~~9, 10, or 21~~, wherein said first DNA is a chromosomal DNA of double-stranded DNA virus, and said second DNA is a plasmid DNA or a DNA of double-stranded circular DNA virus.

16. (Currently Amended) The method according to claim 9 or 21 ~~9, 10, or 21~~, wherein said first DNA is a chromosomal DNA of double-stranded DNA virus, and said second DNA has a property of forming a double-stranded circular DNA by intracellular conversion.

17. (Currently Amended) The method according to claim 15, wherein the double-stranded DNA virus is adenovirus.

18. (Cancelled).

19-20. (Canceled).

21. (Currently Amended) A method for replacing a nucleotide sequence in vitro , comprising the step of reacting

a first DNA comprising in sequential order a wild type FRT sequence, a first nucleotide sequence of interest and a mutant FRT sequence defined in claim 2, with

a second DNA comprising in sequential order a wild type FRT sequence, a second nucleotide sequence of interest which nucleotide

sequence is different from that of the first nucleotide sequence of interest, and the mutant FRT sequence,

in the presence of recombinase FLP,

thereby obtaining a DNA in which the first nucleotide sequence of interest is replaced by the second nucleotide sequence of interest in the first DNA.

22. (Previously Presented) The method according to claim 16, wherein the double-stranded DNA virus is adenovirus.

23. (New) The method according to claim 10, wherein the second nucleotide sequence of interest is not functional.

24. (New) The method according to claim 10, wherein said first nucleotide sequence of interest is not functional.

25. (New) The method according to claim 10, wherein said first DNA is a chromosomal DNA of a cell, and said second DNA is a plasmid DNA or a DNA of double-stranded circular DNA virus.

26. (New) The method according to claim 10, wherein said first DNA is a chromosomal DNA of a cell, and said second DNA has a property for forming a double-stranded circular DNA by intracellular conversion.

27. (New) The method according to claim 10, wherein said first DNA is a chromosomal DNA of double-stranded DNA virus, and said second DNA is a plasmid DNA or a DNA of double-stranded circular DNA virus.

28. (New) The method according to claim 10, wherein said first DNA is a chromosomal DNA of double-stranded DNA virus, and said second DNA has a property of forming a double-stranded circular DNA by intracellular conversion.

29. (New) The method according to claim 27, wherein the double-stranded DNA virus is adenovirus.

30. (New) The method according to claim 28, wherein the double-stranded DNA virus is adenovirus.